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Spaceport News

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http://www-pao.ksc.nasa.gov/kscpao/snews/snewstoc.htm John F. Kennedy Space Center

Roy Bridges briefs community leaders

Kennedy Space Center Director Roy Bridges Jr. shared some of KSC's most significant accomplishments of the past year and plans for the future with Brevard County community leaders June 6.

Bridges addressed hundreds of guests during the annual Community Leaders Briefing and Breakfast held at the Kurt Debus Conference Facility.

The center director noted that July 1 will be the 40th anniversary of the creation of the Launch Operations Center, now known as Kennedy Space Center.

"A lot of good things have happened since then and a lot of historic things have happened, but the one thing that hasn't changed is your steadfast support," Bridges said. "We appreciate the support of all our stakeholders."

During the coming year KSC will be hosting a number of special events open to the public to celebrate its 40th anniversary. A commemorative 16-page color *Spaceport News* edition will be published July 12.

Kennedy Space Center Director Roy Bridges Jr. briefs community leaders June 6 at the Debus Conference Facility at KSC Visitor Center.

Bridges recommended that briefing participants who were interested in keeping up with ongoing activities of KSC visit the recently redesigned and expanded KSC Web site (**http://www.ksc.nasa.gov**). The site includes KSC news updates, photographs, downloadable video, archived video and live KSC Direct webcasting of launch activities.

"Through our new Webcasting Studio we can provide even more news coverage of KSC than before," Bridges said of the site.

Among future plans for the center, Bridges announced a ground-breaking for the Operations Support Building II will be held in July. When complete, the building will house hundreds of KSC workers now operating out of trailers. It will also provide a highrise launch viewing area.

In the question and answer session following his discussion, Bridges offered a positive view on the potential for the International Space Station.

Bridges explained that the public's confidence had to be restored in the agency's ability to estimate and manage costs.

NASA also is looking at ways of automating experiments to make the most of the Space Station astronauts' time, he said.

"(NASA Administrator) O'Keefe is keeping an open mind about how many astronauts we need up there," Bridges said.

The community leaders were provided with copies of the recently published 2001 KSC Annual report, which features full-page color photos and highlights of the fiscal year's activities. The report is available for viewing online at **http://www-pao.ksc.nasa.gov/kscpao/annrpt/annrpt01.pdf.**

Inside

NOAA-M set to launch June 24

A new environmental satellite, NOAA-M, is planned for launch June 24 from Vandenberg Air Force Base, Calif. NOAA-M was set at presstime to lift off aboard an Air Force Titan II launch vehicle at 11:22 a.m. PDT (2:22 p.m. EDT).

NASA Kennedy Space Center will manage the launch in its role as lead center for acquisition and management of Expendable Launch Vehicle services.

"The NOAA-M satellite will improve weather forecasting and monitor environmental events around the world," said Conrad Lautenbacher, undersecretary of commerce for oceans and atmosphere and NOAA administrator.

NOAA-M is the third in a series of five Polar-orbiting Operational Environmental Satellites (POES) with improved imaging and sounding capabilities that will

(See NOAA-M, Page 6)

An artist rendition of the NOAA-M satellite on orbit. The spacecraft is set to launch from Vandenberg Air Force Base on June 24.

Recognizing Our People

Boeing "lean team" to represent KSC

Two Boeing Florida "lean teams" showed off their expertise in packing International Space Station (ISS) supply modules recently in a NASA continuous improvement competition.

One of the teams will represent KSC in an agency-wide competition.

The teams – receiving and cargo packing – have reduced processing time along with lowering costs for the receiving operation and for loading the Multipurpose Logistics Modules (MPLM) flown aboard Space Shuttles to deliver supplies to the ISS.

Each can-shaped module is about 21 feet long and 15 feet wide and weighs about 4.5 tons.

The Italian Space Agency has delivered three of the modules to NASA. Each module is pressurized and equipped with life support and electrical power.

The cargo packing team initiated improvements and changes in work flow that have resulted in cost savings of more than $400,000 per MPLM mission to the ISS.

Using the accelerated improvement workshop process, the receiving team initially realized an 89 percent reduction in cycle time. They have continued to improve this process and achieve additional cycle time reductions.

Both teams recently presented their results to Kennedy Space Center Director Roy Bridges and the Continuous Improvement (CI) Integrated Working Group in a competition to attend the NASA CI and Reinvention Conference in Washington, D.C.

Bridges and the CI group selected the cargo packing lean team to represent KSC in an agency-wide competition. Judges will select five teams from NASA centers to attend the conference. Team members find out in June if they will attend the conference in November.

Boeing technicians (from left) Rodney Armiger, Richard Zych and engineer Pete Gauthier prepare a soft stowage bag containing supplies bound for the International Space Station at KSC. The Boeing payload team has developed procedures saving money and decreasing the time it takes to process the modules.

"This was an excellent opportunity to showcase our Lean Enterprise successes to NASA and contractor executives at KSC," said Scott Shearer, Boeing Florida site focal for Lean Enterprise activities. "The teams also continue to build on their successes from last year as demonstrated in the teams' monthly lean metrics and Kaizen newsletter reviews."

Boeing has processed every Space Shuttle payload since the first flight in 1981. In addition, the company readies all components of the International Space Station for flight.

The payload processing team also prepares NASA scientific payloads for flight such as Mars Odyssey and Genesis, both launched aboard Boeing Delta II launch vehicles.

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Employees of the Month

June Employee of the Month pictured from left are Steven Horn, Office of the Chief Counsel; Jose Mojica, Joint Performance Management Office; Michael Harrison, Spaceport Engineering and Technology; and Terri Holbert, ISS/Payloads Processing. Not shown are Kevan Donewald, Equal Opportunity Office; Joan Lyons, Chief Financial Office; Ismael Otero, Shuttle Processing; Carol Cavanaugh, Spaceport Services; and Roberta Gnan, ELV and Payload Carriers Programs.

KSC team salvages X-33 equipment

Advanced Technology Development Center to benefit from move

Above, Kennedy Space Center workers prepare liquid hydrogen transfer lines at Edwards Air Force Base for shipment to KSC as part of an effort to make use of X-33 equipment in KSC's new Advanced Development Technology Center. At left, KSC X-33 move team members take a break from their two weeks worth of salvage activities at Edwards AFB. Pictured from left are Ameen Sarkees, Phil Weber, Mike Harrison, Greg Clements, Rob Mueller, Bill Notardonato, Michael Kromann, Scott Schieben, Rusty McAmis, Mike Dunkel, Carl Exline, Phil Stroda and Dan Keenan.

Thirteen Kennedy Space Center employees traveled to Edwards Air Force Base, Calif., May 14 to begin the two-week process of disassembling and packing valuable equipment from the X-33 launch site for use at KSC's Advanced Technology Development Center (ATDC).

The relocation was completed May 31.

The ATDC is being developed to enhance KSC's capabilities as a Spaceport Technology Center, allowing for more integrated full-scale testing of ground support equipment and a controlled, isolated environment for hazardous testing operations.

The relocation effort was the culmination of nearly a year of negotiations involving the Air Force Flight Test Center (AFFTC), Marshall Space Flight Center, Lockheed Martin Skunk Works, and KSC, said Phil Weber, NASA lead for the relocation effort.

The equipment is on loan to KSC until October 2006, with options to extend the loan period.

NASA canceled the X-33 program in February 2001, and the Air Force decided in October 2001 not to continue the program.

The hardware assets of the program (ground and flight hardware) are being distributed among NASA centers and contractor team members.

The equipment will go a long way towards outfitting the ATDC, which will serve as a "prototype" spaceport environment for developing and demonstrating new spaceport and range technologies.

"Money for equipment purchase has been limited within NASA for some time now, and this was an excellent opportunity to reutilize equipment already purchased by NASA," Weber said.

The total value of the equipment is roughly $2.5 Million.

Nine NASA employees, including Greg Clements, ATDC project manager, and four contractor employees from Lockheed Martin and Gem Technologies Inc. accomplished the relocation.

Six semi-tractor trailers were filled with equipment and shipped to KSC. The equipment includes liquid hydrogen and liquid oxygen control and loading components, as well as the command and control system, Operational Television system, and Operational Communication system.

Numerous pieces of KSC equipment that were on loan to the X-33 program were also returned, including Ground Interface Modules, a Laser Vehicle Alignment system, and the Pyrotechnic Initiation Control system.

The last of the trucks arrived at ATDC and was unloaded May 31.

"I am so proud of these guys," Weber said of the move team. "They were subjected to 50 knot sandstorms, blistering heat, and very long hours. Each one stepped up to the task and accomplished a tremendous feat in just nine days.

"Our objectives were to be safe, get the equipment disassembled and loaded onto the trucks, clean up and secure the site, and return home for Memorial Day weekend."

Weber said special recognition should go to Mike Dunkel of Gem Technologies Inc., who served as foreman. Dunkel lined up all the rental equipment and cross country trucks, ran the day to day job site, and energized the team.

The X-33 launch site is located at Haystack Butte, on the Air Force Research Laboratories test area at the northern end of Edwards AFB.

"The terrain is high desert, averaging just 6-8 inches of rain per year," Weber said. "Rattlesnakes and highly poisonous Green Mojave snakes are common, as are scorpions, coyote, and jackrabbits.

"The Desert Tortoise, an endangered species native to the area, was given a wide berth by all working in the area."

Workers from Johns Hopkins University Applied Physics Laboratory and The Boeing Co. conduct a spin test for CONTOUR at SAEF-2.

A number of NASA's early planetary spacecraft – including both Viking Landers and Voyager – were processed in the Spacecraft Assembly and Encapsulation Facility 2 (SAEF-2) at Kennedy Space Center.

For the past few years, this class-100,000-clean , hazardous-processing facility has been especially busy. In recent years an average of more than two Expendable Launch Vehicle (ELV) spacecraft per year have been assembled, tested and fueled at SAEF-2, then rolled out to a launch site.

The Cassini propulsion system, Mars Global Surveyor, Mars Pathfinder, Mars Climate Orbiter, Mars Polar Lander and Mars Odyssey were all processed there, as were ACE and MAP, TDRS-H, TDRS-I and SOHO.

Currently the CONTOUR (Comet Nucleus Tour) spacecraft is being processed in the 17,098-square-foot work area.

Set to launch from Cape Canaveral Air Force Station July 1, the CONTOUR mission will offer the most detailed look yet at the heart of a comet – its nucleus. CONTOUR will fly as close as 60 miles of two comets, assessing their diversity and discovering how those primitive buiilding blocks of the solar system have evolved since forming more than 4.5 billion years ago.

Next scheduled for SAEF-2 will be the new TDRS-J spacecraft.

"SAEF-2 offers our customers a lot of versatility and makes it easier for them to meet their many challenges," said Sam Michel, NASA customer processing manager.

Located in the Hypergol Maintenance Facility (HMF) area, SAEF-2 includes a large airlock, spin table, high bay , two low bays, test cell, two control rooms, general office areas and mechanical equipment rooms. The facility – which is managed and maintained by The Boeing Co. – allows for hazardous operations, including bi-propellant fueling, and spin balancing.

"SAEF-2 is unique," said Tom Rucci, launch site integration manager. "There is convenient access to office space and so much of the processing can be completed in this one location."

KSC leads NASA's acquisition and management of ELV launch services. As a customer service, the KSC ELV team has begun offering propellant loading, which was recently completed successfully for CONTOUR in SAEF-2. MAP was the first mission that benefited from the fueling service.

For CONTOUR the customer for the fueling was the Johns Hopkins University Applied Physics Laboratory (JHU APL), which is responsible for the project management, spacecraft development and mission operations for CONTOUR. JHU APL works in conjunction with the mission's principal investigator at Cornell Univeristy.

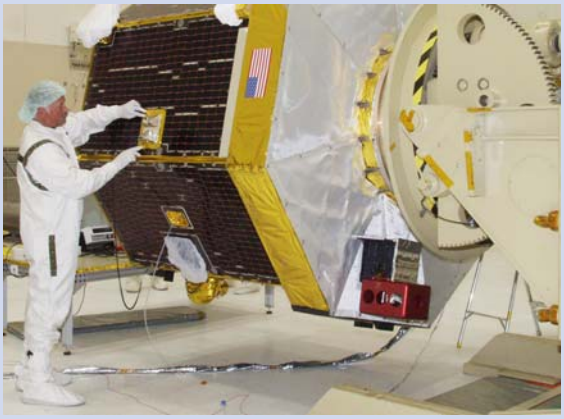
"Working with KSC made the fueling operation a much simpler process and we have really appreciated that," said JHU APL's Ed Reynolds, deputy program system engineer for CONTOUR. "SAEF-2 worked out perfectly for our processing needs."

INSID

Above, Johns Hopkins University Applied Phy
tightens fasteners on the CONTOUR spacecra
At right, JHU APL, Boeing and NASA enginee

DE SAEF-2

rsics Laboratory technician Tim Lippy (on ladder)
aft in SAEF-2 while JHU APL's Don Clopein watches.
rs and techs prepare for fueling of the spacecraft.



Neal Bachtell, JHU APL thermal technician, closes out blanket around CONTOUR's Earth-Sun Sensor.

Chuck Davis (left), NASA fuel services lead, and Charlie Smith, Boeing technician, monitor fueling of CONTOUR.

Boeing technician Carlos Shurick (left) and JHU APL propulsion engineer Jim Stratton connect hoses to the spacecraft for propulsion system leak tests.

Bill Brandenburg, JHU APL power technician, confirms solar array current on the computer while Lead Power System Engineer Paul Panneton shines flood light on CONTOUR's solar array.

KSC kicks off U.S. Savings Bond Campaign

Kennedy Space Center employees were recently given the opportunity to stretch their hard-earned dollars.

On June 4, the KSC 2002 Federal Savings Bond Campaign kickoff was held in the KSC Training Auditorium.

The "Reach for the Stars" campaign goal is a 5 percent increase for both new enrollment and allotment increases.

James Jennings, KSC deputy director, is this year's chairman, and Barry Braden, deputy associate director of the Spaceport Technology Project Management Office, is co-chair.

Jennings explained the many advantages to purchasing U.S. Savings Bonds.

"They may not grow as fast as other investments, but investors won't encounter the stock market problems that are occurring now," said Jennings. "In honor of Sept. 11, the series EE bonds now have a patriotic symbol on them, so bonds are also an opportunity to show patriotism."

"They may not grow as fast as other investments, but investors won't encounter the stock market problems that are occurring now. In honor of Sept. 11, the series EE bonds now have a patriotic symbol on them, so bonds are also an opportunity to show patriotism."

JAMES JENNINGS
KENNEDY SPACE CENTER DEPUTY DIRECTOR

The EE Patriot Bonds, a way for Americans to express support for the Nation's war and recovery efforts, can't be purchased through payroll deduction, however.

U.S. Treasury Department's John Janson encouraged employees to take advantage of the secure opportunity and to educate co-workers about U.S. Savings Bonds.

KSC Center Director Roy Bridges challenged employees to value financial security as much as safety – one of KSC's guiding principles.

KSC selects Analex for ELVIS contract

NASA's Kennedy Space Center has selected Analex Corp., Brook Park, Ohio, for the award of the Expendable Launch Vehicle Integrated Support (ELVIS) contract.

This is a new performance-based, fixed-price/cost-plus-award-fee contract to perform various integrated support services for the NASA Expendable Vehicle (ELV) Program Office at KSC.

Under the ELVIS contract Analex will provide a broad range of ELV support services for NASA requirements at KSC, Cape Canaveral Air Force Station, Vandenberg Air Force Base in Calif., and other launch site locations.

This includes management, operation and maintenance of facilities, systems and equipment, as well as specified technical and administrative capabilities.

The contract covers responsibility for furnishing engineering services; performing safety and mission assurance functions; and providing communications, data and telemetry support. In addition, at Vandenberg Analex will also be responsible for maintenance of NASA's administrative, launch support and spacecraft facilities, mission support planning and customer support for payload processing activities.

The contract has a one-month phase-in period beginning June 1 to be followed by a three-year, three-month basic period of performance.

There are two options of three years each for a potential nine-year, four-month contract term. The contract value for the basic performance period is $54.9 million.

The potential contract value including all priced options over nine years, four months is $163.7 million.

NOAA-M ...

(Continued from Page 1)

operate over the next 10 years. Like other NOAA satellites, NOAA-M will collect environmental data and transmit the information to users around the world to enhance weather forecasting.

The data will be used primarily by NOAA's National Weather Service for its weather and climate forecasts.

Longer-term data records from the NOAA satellites will contribute to the understanding of climate change and President Bush's climate change research initiatives.

NOAA-M will be re-named NOAA-17 after achieving orbit.

The polar-orbiting satellites monitor the entire Earth and track atmospheric variables and global weather patterns affecting the weather and climate of the United States.

The satellites provide atmospheric data and cloud images, visible and infrared radiometer data for imaging purposes, radiation measurements, and temperature and moisture profiles.

The polar orbiters' ultraviolet sensors also measure ozone levels in the atmosphere and are able to detect the ozone hole that occurs over Antarctica from mid-September to mid-November.

NOAA's environmental satellite system is composed of two types of satellites: Geostationary Operational Environmental Satellites (GOES) for national, regional, short-range warning and "now-casting"; and the polar-orbiting satellites for global forecasting and environmental monitoring.

Both GOES and POES are necessary for providing a complete global-weather-monitoring system.

Both systems also carry search and rescue instruments to relay signals from aviators and mariners in distress.

NASA's Goddard Space Flight Center in Greenbelt, Md., is responsible for the construction, integration, launch and verification testing of the spacecraft, instruments and unique ground equipment.

Data from the NOAA spacecraft are used by researchers within NASA's Earth Science Enterprise, a long-term research program designed to study Earth's land, oceans, atmosphere, ice and life as a total integrated system.

In addition, these data are helping NASA scientists design instruments for follow-on missions.

High school students begin interships at KSC

Not only is KSC home to a permanent diverse workforce, during summer months KSC is home to students from many cultures and backgrounds including individuals with disabilities.

On June 3, External Relations and Business Development Director JoAnn Morgan welcomed more than 50 high school level students as they began internships sponsored by the NASA Education Programs and University Research Division.

Summer High School Apprentice Research Program (SHARP), High School High Tech (HSHT) and Summer Aid Program participants spent their first day learning about safety and health, the Equal Opportunity Office's services, and the Workforce Diversity and Management Office's services, specifically the NASA Cooperative Education Program.

Hervonica Collins, a current KSC university level intern from Florida A&M University, offered some words of wisdom.

"Don't just come to work and go home. There are so many activities to get involved in," she said. "I just had a lot of fun being an escort for the STS-111 astronaut families."

At the orientation, Pam Biegert, Education Programs and University Research Division chief, discussed ways to make the most out of the summer.

"Figure out what you and your mentor's expectations are and try to keep them aligned," she said. "Ask lots of questions, learn about NASA – it's an opportunity to learn how the government works."

SHARP participant Josh Wales plans to take Biegert's advice.

"I want to learn about technology, and learn to work with different types of people," said Wales, a Rockledge High School rising senior.

SHARP is an eight-week program for rising high school juniors and seniors who meet several requirements including a strong interest in and aptitude for science and engineering careers.

The students work with a KSC mentor in a science, engineering, or technology area.

Lake Howell High School rising senior Stephanie Kirsten looks forward to finding out what area she'll be working in.

"I prefer to work in a technology area since I plan to major in aerospace engineering at UCF (University of Central Florida)," she said.

HSHT, a program designed for high school students with learning, sensory and physical disabilities, provides interns who spend six weeks at KSC discovering ways to motivate their interests in high tech-related careers.

These students also give NASA's workforce an opportunity to assist students with disabilities to become independent, productive members of the future workforce.

Jakeila Ford, who graduates in 2003 from Rockledge High School, is returning to KSC for the second year as part of HSHT.

She assisted Press Site staff last year and will work with the Education Programs staff this year.

Ford hopes to use what she learns from the experience to pursue her goal of becoming a psychiatrist.

The Summer Aid Program temporarily employs local high school and first-semester college students for the summer.

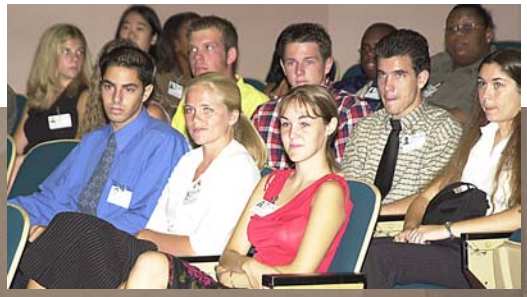
Students work in full-time clerical positions and gain exposure to KSC's unique work environment.

The orientation was not the only occasion for students to get acquainted with KSC and their peers. The summer is packed with learning opportunities.

On June 5, participants attended the "Free Willie: Identifying and Unleashing your Innate Abilities" program given by Dr. Calvin Mackey.

They also plan to witness at least one Space Shuttle and ELV launch, hear various speakers, tour the Center, participate in professional development workshops, and many more activities.

For more information on KSC's pre-college, university level and beyond, visit **http://www-pao.ksc.nasa.gov/kscpao/educate/edu.htm.**



High school student interns listen as External Relations and Business Development Director JoAnn Morgan welcomes them to KSC.

Dr. Calvin Mackey inspires student and others in the Training Auditorium during his "Free Willie: Identifying and Unleashing Your Innate Abilities" program.

> "Figure out what you and your mentor's expectations are and try to keep them aligned. Ask lots of questions, learn about NASA – it's an opportunity to learn how the government works."
>
> **PAM BIEGERT**
> CHIEF, EDUCATION PROGRAMS AND UNIVERSITY RESEARCH

Hear thunder? Play it safe

To determine the danger potential use the "30-30 Rule"

What's wrong with this picture? The photograph shows a baseball team putting themselves in great danger by seeking shelter in a dugout during a thunder storm.

Now that summer thunderstorm season has begun, it's time for a lightning safety reminder.

No place outside is safe when thunderstorms are near.

William Roeder, chief staff meteorologist with the 45th Space Wing Weather Squadron suggests using the "30-30 Rule" when you hear thunder.

If the time between the lightning and thunder is 30 seconds or less, go inside. Stay inside for 30 minutes or more after the last thunder.

While inside, stay off corded telephones and away from electrical appliances and plumbing. If you can't go inside, a car with a metal roof and metal sides is a good second choice.

"Lighting is the No. 1 weather killer in Florida and inflicts life-long debilitating injuries on many more. Lightning kills. Play it safe!" Roeder emphasized.

Sports is the activity with the fastest rising lightning casualty rate, he said. The photograph accompanying this article shows a good example of what not to do when participating in sports activities. The baseball team pictured is on "lightning hold" and has sought shelter in a dugout.

"Dugouts provide no lightning protection," Roeder said. "If hit by lightning, the electricity flows along the roof, onto the ceiling, and then into the nearest path of least resistance, the heads of the baseball players."

Dugouts are doubly dangerous since they are often near tall isolated backstops, long metal fences, tall light posts, and long, tall bleachers.

If lightning strikes these nearby structures, or even just the nearby ground, the electricity can be conducted to the dugout.

> The 30-30 Rule: If the time between the lightning and thunder is 30 seconds or less, go inside. Stay inside for 30 minutes or more after the last thunder.

A dugout typically has a long line of people packed tightly together. The human body is 70 percent salt water, a good conductor. If one person is electrocuted, they all may be electrocuted.

"Dugouts are not good lightning shelters," Roeder said. "They may keep the rain out, but they do not keep the electricity out."

More information is at the 45th Weather Squadron's lightning safety Web site: **https://www.patrick.af.mil/45og/45ws/LightningSafety.** For lightning safety briefings, call the 45th Weather Squadron at 853-8410.

Two birds rise

Launch of Space Shuttle Endeavour on mission STS-111 startles a large bird to flight over nearby waters. Liftoff occurred at 5:22:49 p.m. EDT. The mission marks the 14th Shuttle flight to the International Space Station and the third Shuttle mission this year. Mission STS-111 is the 18th flight of Endeavour and the 110th flight overall in NASA's Space Shuttle program.

John F. Kennedy Space Center

Spaceport News

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